



Secure Parking

Vehicle Anti Theft Detection System

(A SMART WAY TO MANAGE PARKING)



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Marseille International Holding LLP is a limited liability partnership company based in Kolkata, India. From the humble beginning of our company, we are blessed of having a team of highly enthusiastic, experienced employees who had worked tirelessly for the development of the company since its inception.



Introduction

Operating a managed, busy parking lot can pose significant challenges; especially where there are limited parking slots available. Common parking complexes are normally providing parking facility only to registered vehicle.

The common pain area in parking facilities is to identify the owner's vehicle.

Security person at the gate need to manually identify the owner/employee and the vehicle. If identified, the gate will be manually opened for parking the vehicle inside the premises. This manual identification is a time consuming process and at times can cause misidentification. Security person has to remember the vehicle registrations numbers also.





The common scenarios at the gates

- Gates are open which leads to entry of all kind of vehicles inside the premises.
- Security guards are ineffective to allow selective vehicles inside the premises due to lack of proper identification system
- The system of opening the gate is manual and dependent on the availability of the guard Intercom for customer support
- Payment Mechanism
- Smart card offers very low read range.

The proposed solution can definitely address and rectify the above mentioned pain areas.



Requirement Summary



Identify if a Car is not being driven by its Legitimate Owner



Inform the Security Gate and Owner About the car being Stolen



Raise Alarm, when the Car Reaches the Security Gate





Proposed Solution - RFID

Proposed Intelligent Gate system consists of RFID based cards and long range RFID readers with a read range of at least 5 to 7 meters. RFID Tags will be fixed on the vehicle windshield which will be encoded with the vehicle identity. This will work as a wireless name plate and will transfer the vehicle identity to the long range reader installed at the gate. Reader will transfer the identity to the application software and instructs the boom barrier/gate to open or close accordingly. In case the vehicle is unauthorized, a light or audible alarm can be generated.





Vehicle Tagging

Each authorized vehicles will be provided with a RFID tag encoded with the vehicle identity. This will be fixed on the windshield of the vehicle.

Vehicle Identification

Long range RFID reader installed at the gate reads encoded data on tag and passes to the application software. Identity of the vehicle will be verified and open signal will be send to the boom barrier

Automatic Boom barrier Operation

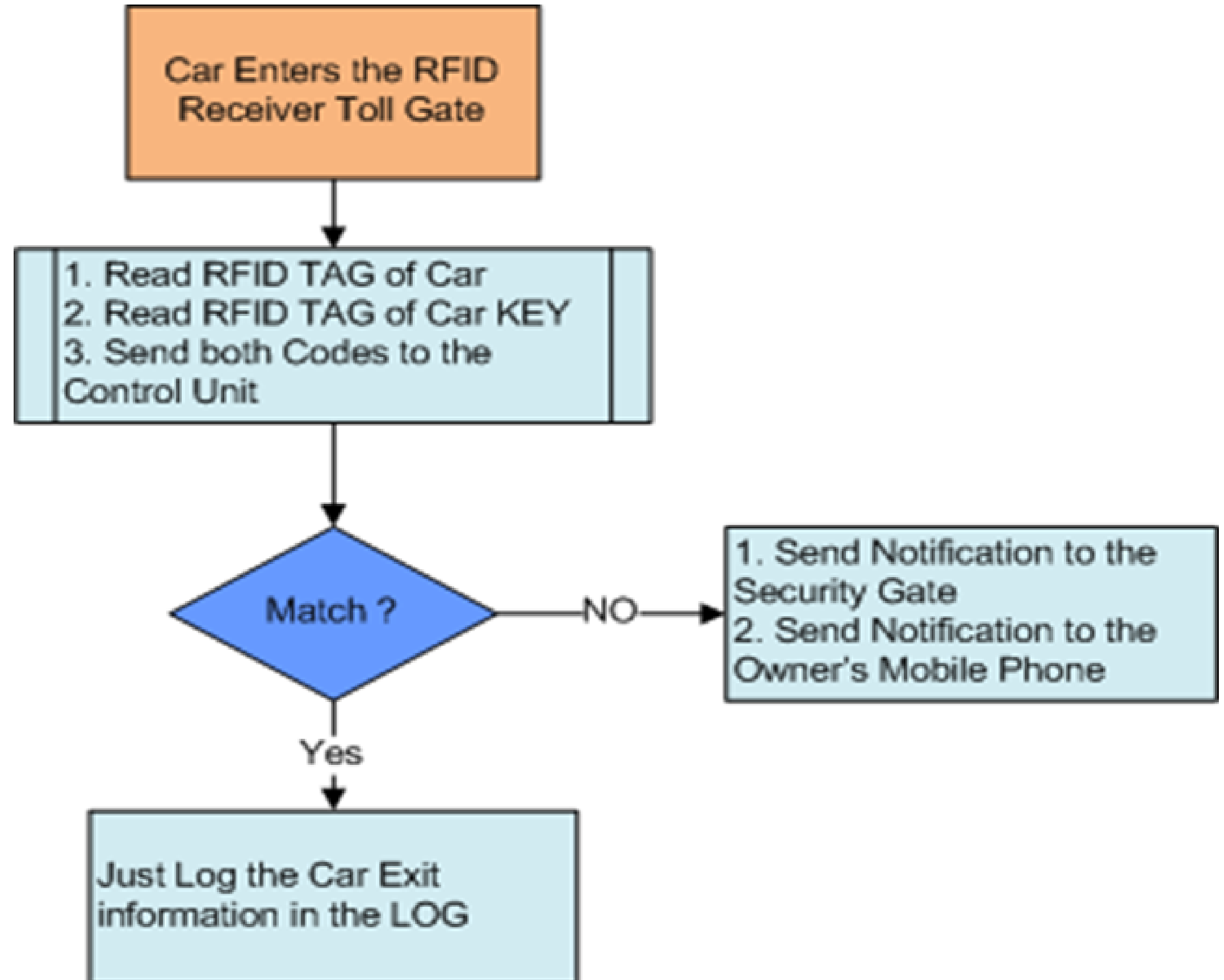
Each authorized vehicles will be provided with a RFID tag encoded with the vehicle identity. This will be fixed on the windshield of the vehicle.

MIS Reports

Application software can generate different kind of MIS reports to analyze the movement of vehicles and payment collection.



Workflow



RFID Based Access Park



Deployment

Prepare

- Installation and Distribution of RFID TAGS
- Record Keeping of the TAGs and Owners Details

Configure

- Installation and Cabling of Surveillance Hardware
- Software configuration and Integration

Rollout and Support

- Unit test/System Integration Test and Rollout
- Post Implementation Support and Maintenance



Proposed Solution - ANPR

Automatic Number Plate Recognition (ANPR) system is based on real time Optical Character Recognition (OCR) for vehicle monitoring based on automatic number plate recognition (ANPR) or License plate recognition (LPR) for tracking and identification of vehicles.



Plate No:73709495 Capture Time:2019-12-26 17:18:02 Vehicle Brand:FORD Vehicle Type:Car Capture No.:20191226171802818

UP37 D 9495



Plate picture

UP37 D 94

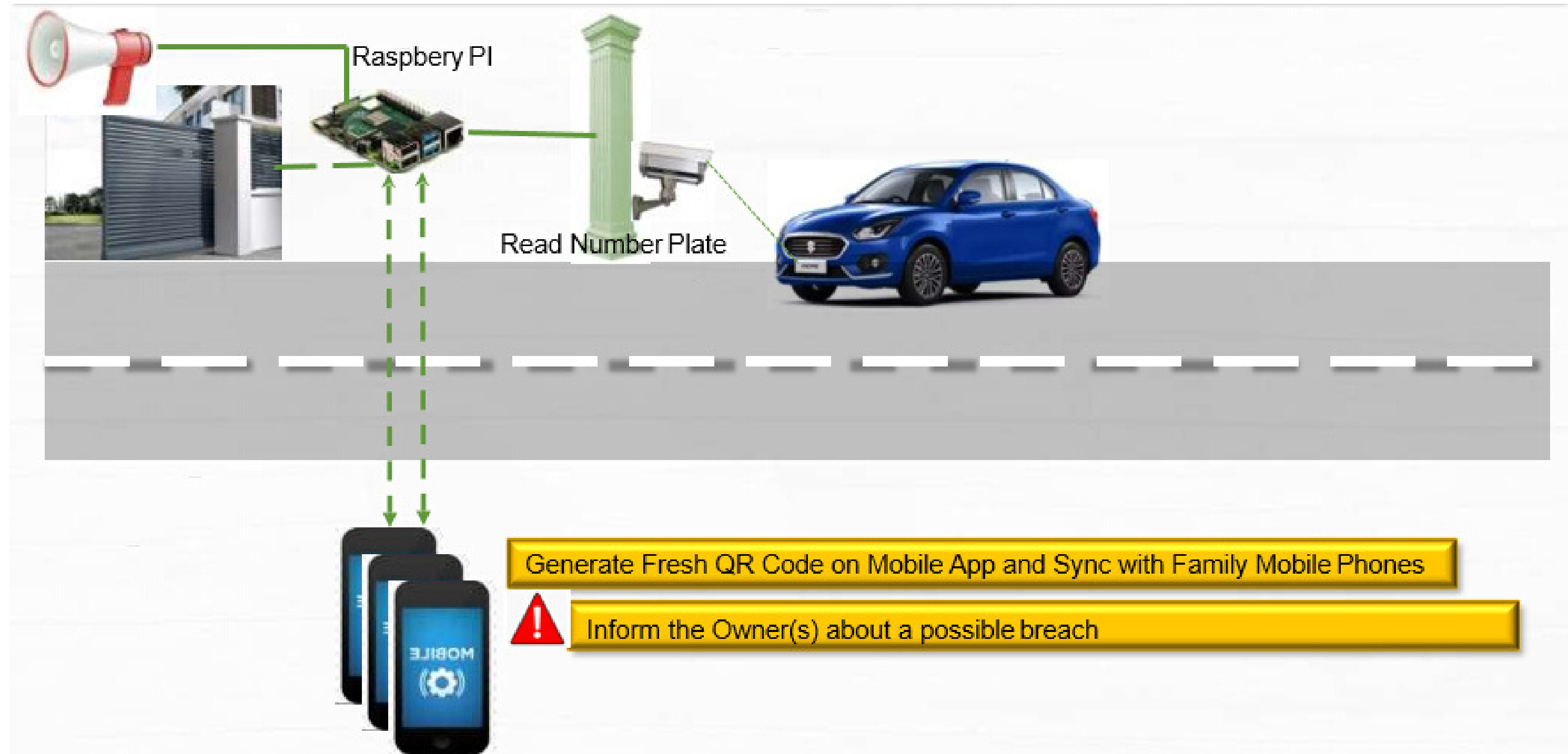
Picture Info

Plate Type : unknown
 PlateColor : unknown
 License : 73709495
 Vehicle Type : small
 VehicleColor : white
 VehicleLogo : 10244
 VehicleSubLogo : 0
 VehicleModel : 0
 PlateSize : Unknown
 State/Area : Unknown

Arete ANPR captures an image stream from the camera and processes the same analyzed image stream for automatic number plate recognition (ANPR) function. The processed vehicle license plates are stored in database and can be verified against number of user- defined criteria. It can be deployed at Border check- posts, Toll Gates/Booths, society Entry/Exit, Traffic Surveillance, Traffic law enforcement applications and hot-listed/stolen/suspected and barred vehicle as part of city surveillance solution.

| PlatePic Path | ScenePic Path | PlateType | PlateColor | License |
|------------------------|------------------------|-----------|------------|------------|
| E:\AreteInfo\ANPR\LPRN | E:\AreteInfo\ANPR\LPRN | unknown | unknown | 73709495 |
| E:\AreteInfo\ANPR\LPRN | E:\AreteInfo\ANPR\LPRN | unknown | unknown | DL55AF746 |
| E:\AreteInfo\ANPR\LPRN | E:\AreteInfo\ANPR\LPRN | unknown | unknown | UP5AS735E |
| E:\AreteInfo\ANPR\LPRN | E:\AreteInfo\ANPR\LPRN | unknown | unknown | UP1JEE7457 |
| E:\AreteInfo\ANPR\LPRN | E:\AreteInfo\ANPR\LPRN | unknown | unknown | DL14127000 |

Solution Summary



Deployment

Prepare

- Installation of ANPR Camera
- Data Capture and car number plate registration with App

Configure

- Installation and Cabling of Surveillance Hardware
- Software configuration and Integration

Rollout and Support

- Unit test/System Integration Test and Rollout
- Post Implementation Support and Maintenance



Proposed Solution - QR Code

Apart from the registered owners or employees (in case of corporate), there will be a registration counter at which visitor will register their details and get a barcode ticket. This ticket will be scanned at the entry and exit, in order to allow the visitor vehicle.



QR Code on Phone

Each Resident vehicle will be registered on the mobile app and will generate a barcode on the app, which will be scanned at the entry to allow the resident vehicle inside the premises.

Vehicle Identification

Omni-directional barcode reader installed at the gate reads encoded data on barcode slip and passes to the application software. Identity of the vehicle will be verified and open signal will be sent to the boom barrier

Automatic Boom barrier Operation

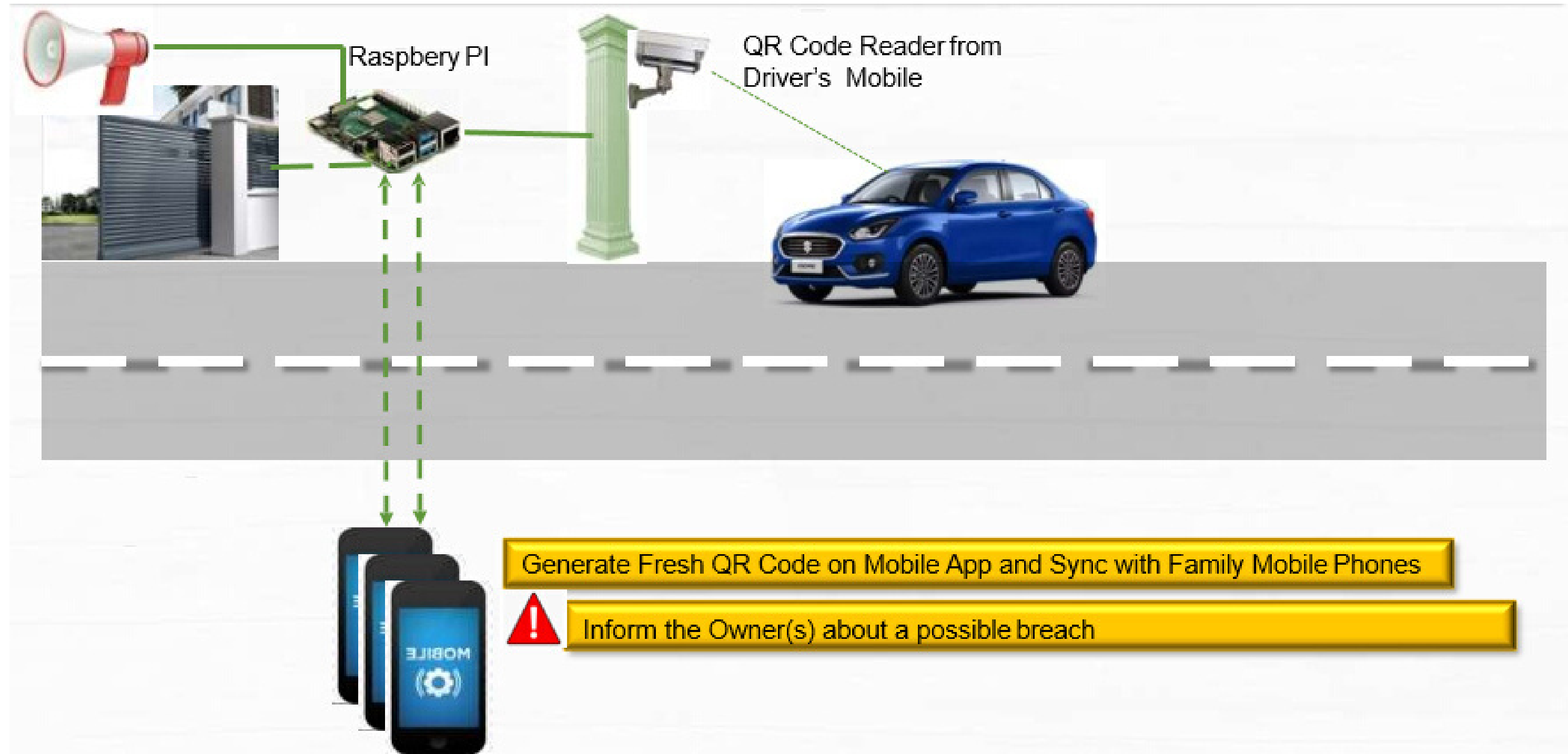
On receiving the signal, gate will be opened to allow the authorized vehicle to pass. It closes automatically when the vehicle passes the gate.

MIS Reports

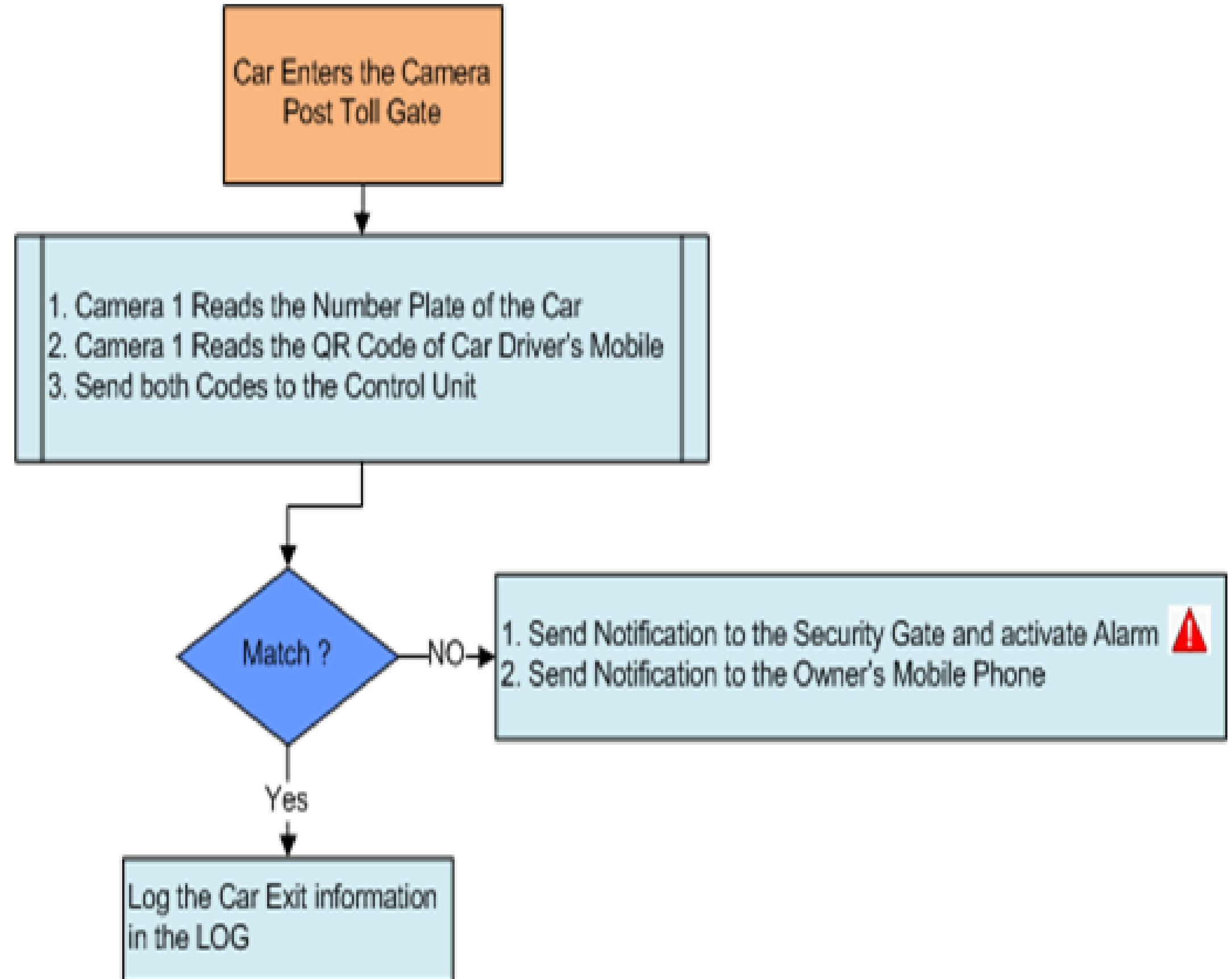
Application software can generate different kind of MIS reports to analyze the movement of vehicles



Solution Summary



Workflow



Deployment

Prepare

- Installation and Distribution Mobile App.
- Data Capture and car number plate registration with App

Configure

- Installation and Cabling of Surveillance Hardware
- Software configuration and Integration

Rollout and Support

- Unit test/System Integration Test and Rollout
- Post Implementation Support and Maintenance

Features of Proposed Solution

Security:

- Role based Accessibility
- Encrypted Password Management
- User Rights Management
- User Based GUI

Operations:

- Quicker access
- Fraud resistant
- Shift management
- Pass Management



Maid Management

Maid Management is also an integral part of Society Management in a residential society. Process for maid management will be as follows:

- Maids will be given smart cards.
- Smart cards reader will be installed at the gate and will be connected to the Maid management application on the guard room PC.
- Maids will flash their card on the smart card readers while entering and exiting from the society.
- Their complete details along with a photograph will be displayed on the screen of the PC.
- Guard can manually verify the details and let them enter and exit the society premises.
- All the data is available for MIS reporting.



Mobile App for Theft Control

- Along with the RFID system there will be a mobile app given to the users.
- Using this app user can anytime lock unlock their car.
- If a car is locked it will not be allowed to exit the premises even if its RFID tag is valid.
- This can be done on click of a button on the app and it will reflect onto the system on real time basis.



PMS Software Screens





Masters Action Reports Settings

 Configure Database

 Database Backup

 Database Restore

 Handheld

 Desktop Reader



Database Configuration

Data Source

Database Name

User Name

Password

Remote Backup





Masters Action Reports Settings

- Company
- Location
- Floor
- Zone
- Parking Slot
- Vehicle Class
- Card Manager
- Shift
- User Role
- Fare
- User



User Na... User Type Mobile Email Status

Mahur
Admin

User Master

Address: Hapur
City: Hapur
State: UP
Country: India

User Name: Mahur
Password: ●●●
Re-Type Password:
Role: Admin
Mobile: 9536721271
Email: abc@gmail.com
Shift: ALL TIME

User Photo: 
[Browse](#)



Report

Main Report

Fare Collection

| Vehicle Type | Shift | Date | Amount | Penalty Amount | Total Amount |
|---------------------|-------------|------------|---------------|----------------|---------------|
| <u>Four Wheeler</u> | <u>Noon</u> | 08-09-2015 | 160.00 | 180.00 | 340.00 |
| Four Wheeler | | | 160.00 | 180.00 | 340.00 |
| <u>Two Wheeler</u> | <u>Noon</u> | 13-01-2016 | 170.00 | 0.00 | 170.00 |
| Two Wheeler | | | 170.00 | 0.00 | 170.00 |
| Grand Total: | | | 330.00 | 180.00 | 510.00 |

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Report

Main Report

Fare Collection

| Operator | Shift | Date | Amount | Penalty Amount | Total Amount |
|---------------------|-------|------------|---------------|----------------|---------------|
| aditya | Noon | 13-01-2016 | 170.00 | 0.00 | 170.00 |
| aditya | | | 170.00 | 0.00 | 170.00 |
| Grand Total: | | | 170.00 | 0.00 | 170.00 |

Future Enhancements

Biometric / Cloud
Integration

Parking Planning

GPRS Surveillance /
DMV Integration

Integration with Building
Management System



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Case Studies

IOCL: Parking Management System

Problem Statement: Restricting the entry of only Authorized Vehicle

Proposed Solution: RFID Based Vehicle Access Control System

Outcome: Only authorized vehicle can enter the premises now and there is no manual intervention in doing so.

Star TV: Parking Management System

Problem Statement: Restricting the entry of only Authorized Vehicle and restricting Parking usage day wise and guidance inside parking.

Proposed Solution: Smart card Based Vehicle Access Control System

Outcome: Only authorized vehicle can enter the premises using their smart cards and they are guided towards their assigned parking slot by a parking floor display at the entrance.



Customer Feedback

"Hi Team Areteinfo Thank you very much for your support extended at our event in Mumbai. It has been a wonderful experience working with you and your team is highly professional in managing large scale event. You guys are an extended team. Thanks a ton!"

Ritesh Behl

Arvato Bertelsmann

"Hi Team Arete, I'd like to thank you and your entire team for the excellent services and support provided so far. Such a commitment, quick turnaround time on resolution by your engineers and initiative to share new developments will lead to great customer satisfaction."

I wish all the very best and keep the momentum on.

Dinesh Dhal

Group Manager – Administration and Transport
Evalueserve



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"Hi Areteinfo, it was a great experience working with your team, you have got a team of true professionals. Your products are up to our satisfaction and prompt support is the icing on the cake. Keep up the good work. I wish you luck for all your future endeavors."

Kuldeep Sood
Manager- Facility & Administration
Ernst & Young

"Hi Team, I appreciate the excellent services and support provided in our project so far by your team. Every time we need support on our project your team is there."

I wish you best of luck

Pratanu Mohanty
Sr. Manager – Administration
Star India



Thank You



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